

WHAT IS CLAIMED IS:

1. A data processing apparatus comprising:
a bus for which a band-guaranteed cycle capable of
transferring stream data in real time by assigning a
predetermined reserved band for each cycle time, is
defined;

a plurality of nodes connected to said bus and
capable of transmitting/receiving stream data using the
band-guaranteed cycle;

means for executing a multi-cast transfer of
stream data from a sender node to a plurality of
receiver nodes using the band-guaranteed cycle; and

means for detecting that any of the plurality of
receiver nodes drives a signal line in the bus, which
indicates a completion of a data transfer cycle; and

means for stopping the multi-cast transfer upon
detection of said detecting means.

2. The data processing apparatus according to
claim 1, wherein one of a pull-down load circuit and a
pull-up load circuit is connected to the signal line,
and each of the receiver nodes includes an output
buffer connected to the signal line to drive the signal
line into the active state.

3. The data processing apparatus according to
claim 2, further comprising acceleration means for
driving the signal line into an inactive state for a
predetermined time period after the signal line is

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4. The data processing apparatus according to
5 claim 3, wherein the plurality of nodes include a
manager node for controlling said multi-cast transfer,
and the manager node comprises said acceleration means.

drive means for driving the signal line into the active state for a predetermined time period when an amount of data stored in a receiving buffer for receiving stream data transferred by the multi-cast transfer, exceeds a given value, and driving the signal line into an inactive state after the predetermined time period has elapsed; and

6. A data processing apparatus comprising:
a bus for which a band-guaranteed cycle capable of
transferring stream data in real time by assigning a
predetermined reserved band for each cycle time, is
defined;

a plurality of nodes connected to said bus and

capable of transmitting/receiving stream data using the band-guaranteed cycle;

means for executing a multi-cast transfer of the stream data from a sender node to a plurality of receiver nodes using the band-guaranteed cycle by assigning one of plurality of channel number to the sender node and the plurality of receiver nodes; and

means for stopping the multi-cast transfer, when a signal line in the bus, which indicates a completion of a data transfer cycle, is driven into an active state by any of the plurality of receiver nodes,

wherein each of the plurality of nodes includes:

drive means for driving the signal line into the active state for a predetermined time period when an amount of data stored in a receiving buffer for receiving stream data transferred by the multi-cast transfer, exceeds a given value, and driving the signal line in an inactive state after the predetermined time period has elapsed; and

means for monitoring a state of the signal line and inhibiting the drive means from driving the signal line when detecting that the signal line is driven into the active state by another node.

7. A data transfer control method for controlling a multi-cast transfer of stream data from a sender node to a plurality of receiver nodes, the method comprising the steps of:

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5 detecting whether a reception buffer of each
receiver node overflows based on an amount of data
stored in the reception buffer; and

8. The data transfer control method according to claim 7, further comprising a step of monitoring a state of the signal line and driving the signal line into an inactive state for a predetermined time period after the signal line is driven into the active state, thereby accelerating a shift of the signal line to the inactive state.